

New York State Department of Transportation

Yellow Flag NB2258W022

By: Alex Abreu

Flag Date: October 21, 2022

Superseding Information:

No Flags Superseded

Structure Information

BIN: 1065318

Feature Carried: 278I278IX2M23027

Feature Crossed: 6TH AVENUE

Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY

County: KINGS

Political Unit: City of NEW YORK

Approximate Year Built: 1962

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation

Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party

Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder

This Bridge is not a Ramp

Number of Spans: 322

Verbal Notification Information

Person Notified: Heinz Joachim, P.E.

Date: October 21, 2022 2:00:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Alex Abreu, P.E. 099761-1

Date: November 01, 2022

Reviewed By: Robert Kemp

Date: November 02, 2022

Attachments: 12

Flagged Elements

| Parent Element | Element | Total Quantity | Unit |
|-------------------------|------------------------------|----------------|------|
| Span Number : 97 | | | |
| | 107 - Steel Open Girder/Beam | 781 | ft |
| | PR831 - Steel Beam End | 34 | each |

Flagged Condition Description

This Yellow Flag No. NB2258W022 is NEW.

Location: Span 97, Girder G5 at Pier 96 located within scaffolding platforms installed by contractor which is located above parking lot between 52nd and 53rd Street.

Description:

The end of Girder G5 in Span 97 at Pier 96 exhibits severe section loss with 3/16"-1/2" remaining thickness measured (RTM) in the girder web for the full height of the web (resulting in approximately 20%-70% section loss) (Photo 9). The girder end exhibits 4"H x 1"W corrosion hole behind the guide angle approximately 11" from the bottom flange (Photo 8). The lower girder web above the bottom flange exhibits up to 3/16" section loss for 36"L x 5"H at both faces of the girder (Photo 10). The bottom flange of the girder exhibits up to 25% section loss for 24"L for the full width of the flange (Photo 11). The web area directly above the bearing exhibits 60% localized section loss (Photo 7). The overall shear web area section loss is approximately 52%. The overall bearing area web section loss is approximately 60%. (Photos 5 and 6) (refer to Yellow Flag Condition Sketch Photo #2 for more details)

This is a newly flagged condition.

Notes:

1. Due to the recent sandblast cleaning and painting of the member, the remaining thickness measured (RTM) readings were obtained thru the use of calipers, not grinding of newly painted steel in order to use a D-meter.
2. Adjacent Girder G4 exhibits 40% section loss in the web area directly above the bearing. The lower web above the bottom flange exhibits up to 3/16" section loss at the right face and 1/8" section loss at the left face for 36"L x up to 6"H. The remaining web height exhibits up to 15% section loss along the guide angle.
3. Adjacent Girder G6 has previously installed steel reinforcement angles and plates.
4. The bearing under Girder G5 exhibits 15% section loss to the bearing components. (Photo 12)
5. The girder on Span 96 side of the pier at this location exhibits section loss for the full web height along the connection angles for up to 3/16" deep for up to 7" wide at the left face and up to 1/8" deep for 6" wide at the right face. Also, the lower web above the bottom flange exhibits up to 1/8" section loss for 18"L x up to 5"H at both faces.
6. Scaffolding platform was installed by contractor within span at the time of inspection so single lane closure in the right lane on 3rd Avenue WB between 52nd and 53rd with 60ft bucket truck was used to access platform.
7. The previous 2021 Biennial Report documented the above bearing location as CS3 with the following condition state note:
Girder G5 exhibits approximately 1/4" D x 6" H x 3 " W section loss in the lower web over the bearing and up to 3/16" D section loss in the web adjacent to the guide angles.

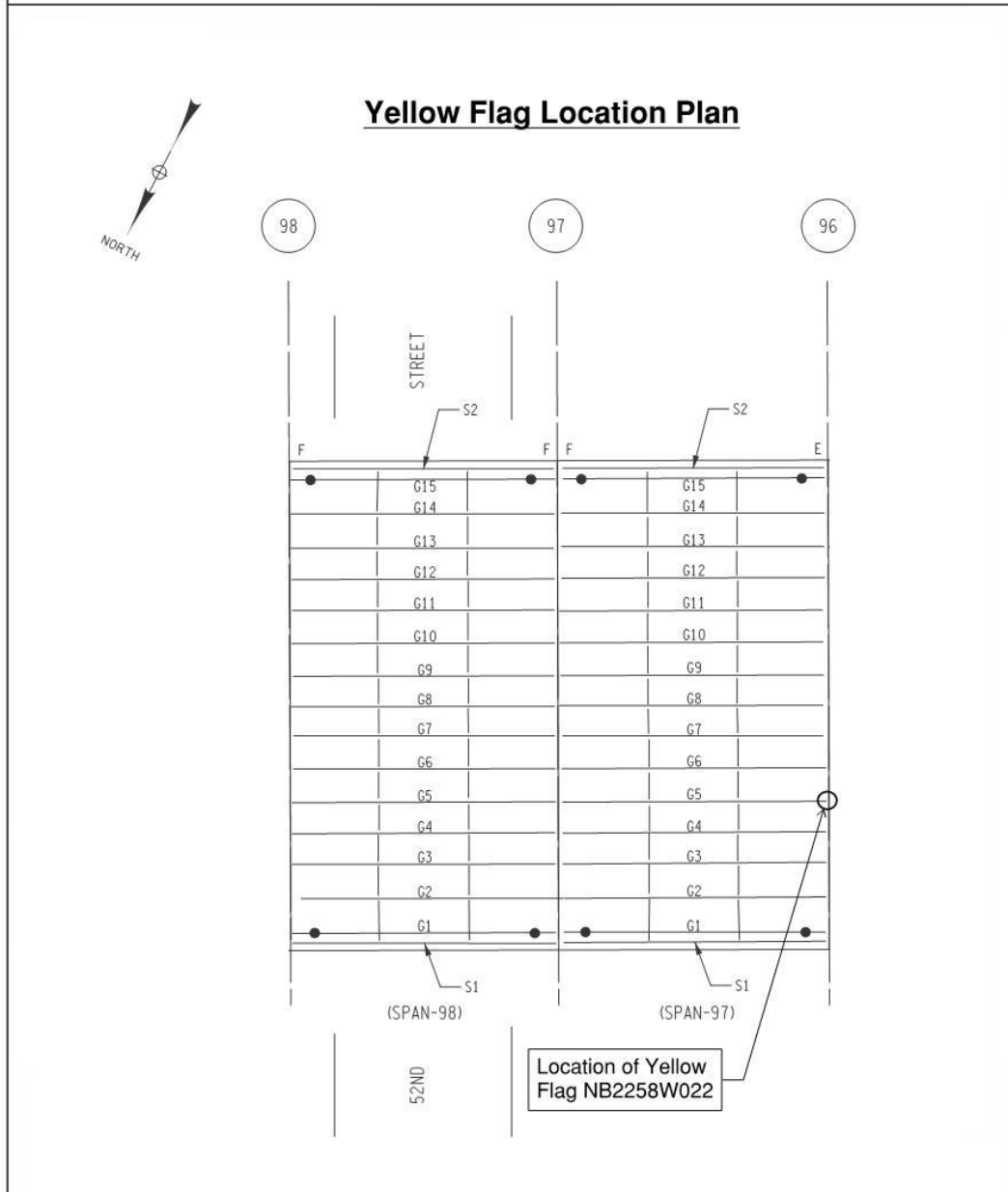
Flag PhotographsPhoto Number: **1**Photo Filename: **22_Flag Location Plan.jpg**Gowanus Expressway
2022 Biennial Inspection - Field SketchBIN: 1065318Team: AA/TSDate: 10/21/2022Span: 97Location: Girder G5 at Pier 96**wsp****Attachment Description: Yellow Flag Location Plan**

Photo Number: 2

Photo Filename: 22_Span 97_Pier 96_Girder G5_Connection Detail.jpg

Gowanus Expressway
2022 Biennial Inspection - Field Sketch

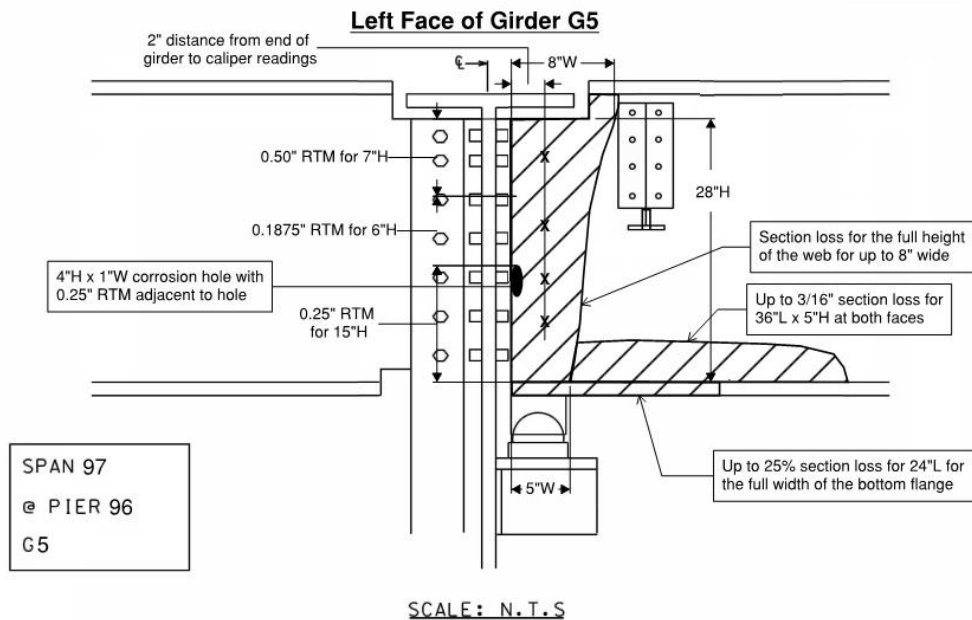
BIN: 1065318

Team: AA/TS

Date: 10/21/2022

Span: 97

Location: Girder G5 at Pier 96

**Section loss Calculations:**

Original girder web thickness = 0.625" (measured)

Localized section loss in web area above bearing = $(0.625 - 0.25) / 0.625 \times 100 = 60\%$ section lossWeb bearing area length = $18 \times 0.625 = 11.25$ "Web bearing area = $0.25 \times 5 + (0.625 - (2 \times 0.1875)) \times 6.25 = 2.81 \text{ in}^2$ Overall web bearing area section loss = $[(11.25 \times 0.625) - 2.81 \text{ in}^2] / (11.25 \times 0.625) \times 100 = 60\%$ section lossShear web area = $(0.25 \times 15) + (0.1875 \times 6) + (0.50 \times 7) = 8.38 \text{ in}^2$ Overall shear web area section loss = $[(28 \times 0.625) - 8.38 \text{ in}^2] / (28 \times 0.625) \times 100 = 52\%$ section loss

wsp

Attachment Description: Yellow Flag Condition Sketch

Photo Number: 3

Photo Filename: 22_113_4417.JPG



Attachment Description: General view of the flagged condition at Girder G5 in Span 97 at Pier 96. Looking Begin.

Photo Number: 4

Photo Filename: 22_113_4395.JPG



Attachment Description: Close-up general view of Girder G5 in Span 97 at Pier 96. Looking Begin and Left.

Photo Number: 5

Photo Filename: 22_113_4396.JPG



Attachment Description: The right face of Girder G5 in Span 97 at Pier 96. The girder web exhibits severe section loss resulting in approximately 60% localized section loss in web area above the bearing, 52% overall shear web area section loss, and 60% overall bearing area web section loss. Looking Left.

Photo Number: 6

Photo Filename: 22_113_4402.JPG



Attachment Description: The left face of Girder G5 in Span 97 at Pier 96. The girder web exhibits severe section loss resulting in approximately 60% localized section loss in web area above the bearing, 52% overall shear web area section loss, and 60% overall bearing area web section loss. Looking Right.

Photo Number: 7

Photo Filename: 22_113_4403.JPG



Attachment Description: The left face of Girder G5 in Span 97 at Pier 96. The girder web area above the bottom flange above the bearing exhibits 60% localized section loss. Looking Right.

Photo Number: 8

Photo Filename: 22_113_4405.JPG



Attachment Description: The left face of Girder G5 in Span 97 at Pier 96. The girder web exhibits 4"H x 1"W corrosion hole behind the guide angle approximately 11" from the bottom flange. Looking Right.

Photo Number: 9

Photo Filename: 22_113_4407.JPG



Attachment Description: The left face of Girder G5 in Span 97 at Pier 96. The remaining web height above the corrosion hole exhibits 3/16"-1/2" RTM resulting in approximately 20%-70% section loss. Looking Right.

Photo Number: 10

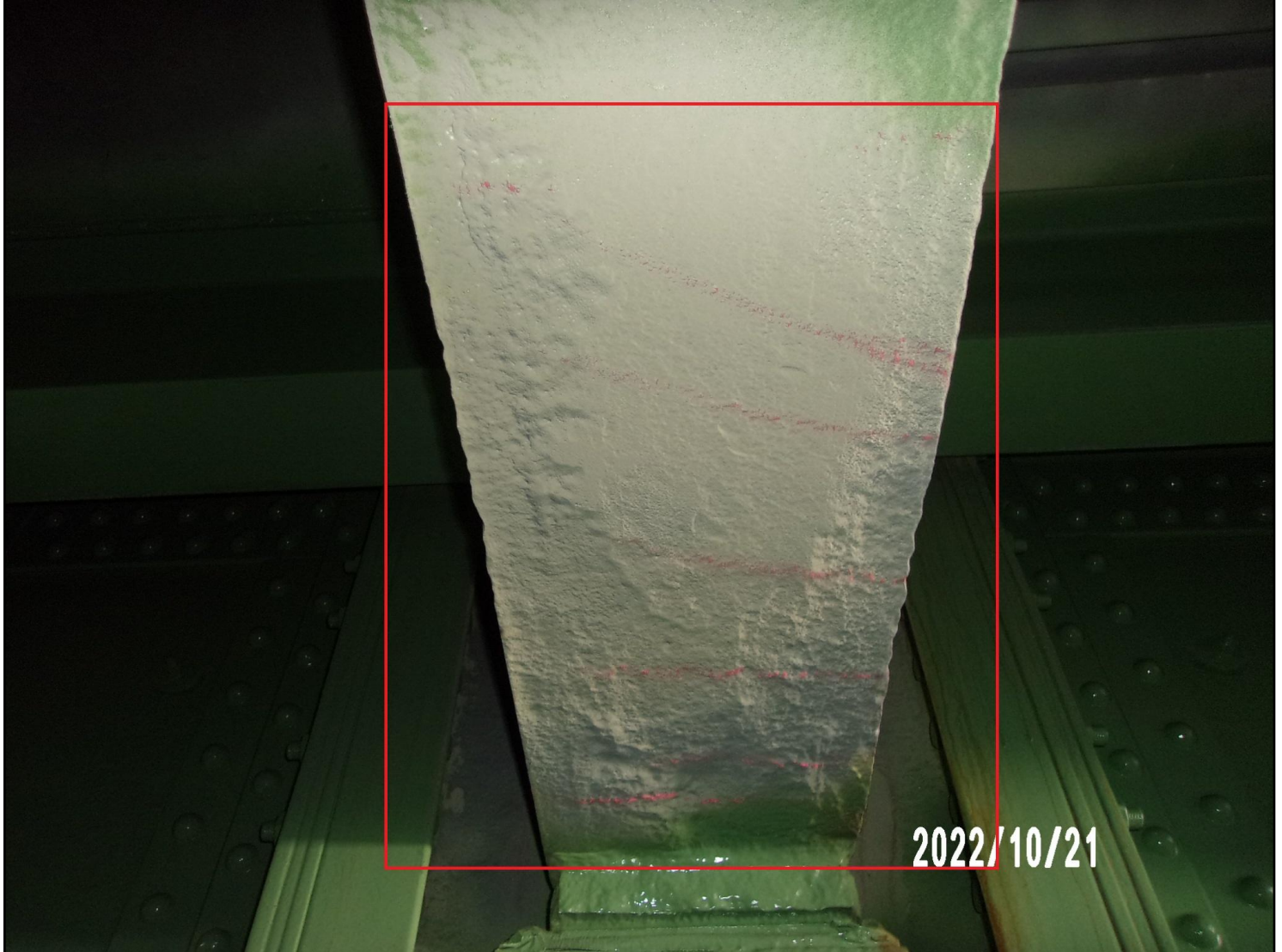
Photo Filename: 22_113_4409.JPG



Attachment Description: The left face of Girder G5 in Span 97 at Pier 96. The lower web above the bottom flange exhibits up to 3/16" section loss for 36"L x 5"H. Looking Right.

Photo Number: 11

Photo Filename: 22_113_4410.JPG



Attachment Description: The underside of Girder G5 in Span 97 at Pier 96. The bottom flange exhibits up to 25% section loss for the full width of the flange for 24"L. Looking Begin.

Photo Number: 12

Photo Filename: 22_113_4411.JPG



Attachment Description: The bearing under Girder G5 in Span 97 at Pier 96. The bearing exhibits up to 15% section loss to the bearing components. Looking Begin and Right.